

## **EMERGENCY GENERATOR O&M**

1. Version, Date. 4, 6 March 14 (EMS)

2. Purpose. This Environmental Standard Operating Procedure (ESOP) establishes the requirements for emergency generator operations and maintenance (O&M) at Marine Corp Base, Quantico (MCBQ). Implementing these requirements will ensure the emergency generators at MCBQ will comply with the Base's air operating permit(s), Virginia State Air Pollution Control Regulations (SAPCR), and Federal regulations.

3. Applicability

a. Audience. The procedure applies to all generator owner/operator(s) responsible for ensuring that the O&M of generator sets is performed and the data necessary to demonstrate compliance is collected once the generator is installed.

b. Scope. The procedure applies to the routine operation of the generator sets as well as testing of the sets for maintenance purposes. This procedure does not apply to generator sets used as the primary source of power, nor does it apply to mobile generators that are used on a temporary basis. Guidance on procuring a new emergency generator is provided as a separate ESOP for Emergency Generators Procurement (ESOP #4).

4. Definitions

a. Generator. A generator is a generator set (generator and associated parts(e.g., internal tanks, controllers, batteries)) that provides emergency back-up power, and which otherwise operates for maintenance and testing purposes only.

b. Generator Owner/Operator. Generator owner/operator is a MCBQ tenant that owns a generator. Each generator owner/operator has the primary responsibility for ensuring compliance with the Base's air operating permit(s), SAPCR, and Federal regulations.

(1) If the generator is included in the Base contract for generator upkeep, the responsible party for maintaining the generator is Shop 61 (Facilities Maintenance Section (FMS), Public Works Branch (PWB), Facilities Division). However, the tenant is still responsible for ensuring that all necessary records and data are collected and properly documented.

(2) If the generator is maintained by a contract set up by a tenant unit, then the generator owner(s) are the members of that unit that are responsible for the contract, in addition to the member(s) of that unit who are responsible for generator maintenance. Any contract

for emergency generator service must be capable of meeting the requirements of this procedure.

c. Portable Generator. A portable generator is a generator set that is not fixed for use in one location, easily transported, and is used for only a short period of time at one designated location.

5. Responsible Parties. The following parties are responsible for various activities necessary for the Command to continuously demonstrate compliance with the Base's air operating permit(s) and SAPCR.

a. Generator Owner/Operator(s)

(1) MCBQ tenant unit and the generator maintenance personnel assigned to that unit

(2) PWB, FMS Shop 61 (Utilities Shop), Generator maintenance personnel

b. PWB, Fuel Farm, Fuel Distribution Operator

c. PWB, Designated Government Representative (DGR) personnel

d. Natural Resources & Environmental Affairs (NREA) Branch, Air Program Manager (APM)

e. NREA Branch, Training Coordinator

6. Procedures (Instructions for Operational Control) for Emergency Generators. This section describes procedures for all stationary (non-portable) emergency generators which operate aboard MCBQ.

a. Periodic Maintenance and Testing. Generator Owner/Operators are required by Federal regulation to schedule periodic maintenance of their emergency generators to ensure that they remain functional. This may also be a requirement for any warranties covering the generator. For generators covered by the Base generator contract and maintained by FMS, Shop 61, the DGR will ensure that periodic maintenance is performed in accordance with the performance work statement (PWS).

b. Visible Emissions Observations. During test runs and while providing back-up power, Generator Owner/Operators are responsible for observing and ensuring that visible emissions do not exceed either permitted or regulatory opacity limits after initial start up. After the generator has been started and warmed up, if visible emissions do not decrease, then emissions exceed what is considered normal. Generator Owner/Operators may use the checklist included at Attachment 5-1. Observations must be recorded and kept onsite. Copies must be provided to the APM on or before the 10<sup>th</sup> of each following month.

c. Malfunctions. Whenever emissions appear to be exceeding the permitted or regulatory visible emissions limit, the Generator Owner/Operator will notify the APM immediately and facilitate corrective actions, per Paragraph 7.b, to return the engine to proper operation.

d. Fuel Quality

(1) If Fuel Farm personnel deliver fuel, they will ensure that fuel procured in support of MCBQ generators complies with the applicable regulations and all necessary documentation is maintained and submitted in order to demonstrate compliance.

(2) If the Generator Owner/Operator contracts an independent supplier for delivery of fuel, the generator owner is responsible for obtaining, maintaining, and submitting the following documentation, which must be capable of demonstrating compliance with the applicable regulations:

(a) The Generator Owner/Operator must obtain a fuel shipment certification from the fuel supplier with each fuel shipment. When fuel is delivered, the generator owner/operator must provide the APM with a copy of all fuel certifications by the 10<sup>th</sup> of the subsequent month. Fuel certifications must include name of the fuel supplier, date of delivery, volume of fuel delivered, a statement that the fuel complies with applicable ASTM standards, and the sulfur content of the fuel.

(b) As an alternative to obtaining a certification from the fuel supplier with each shipment, the Generator Owner/Operator may obtain a sample from each shipment. The sample shall be analyzed to determine compliance with applicable ASTM standards and sulfur limits. This alternative will require the assistance of and coordination with the NREA Chemist. It is highly recommended that Generator Owner/Operators ensure compliance through the first alternative.

(c) For all diesel generators installed after 1 January 2007, fuel sulfur content must comply with applicable standards imposed by the Federal regulation, New Source Performance Standards (NSPS), Subpart IIII. For specific information concerning these fuel requirements, contact the APM.

e. Monthly Recordkeeping. Generator Owner/Operators are required to collect generator usage and maintenance data including, but not limited to the following. An example checklist is included as Attachment 5-1.

(1) Hour meter reading

(2) Number of hours operated for maintenance, testing, and other non-emergency purposes

(3) Preventative maintenance that was performed during the month (i.e., oil changes, filter replacements, equipment inspections)

f. Monthly Reporting. Copies of these monthly records are to be maintained in the work center and also must be provided to the APM by the 10<sup>th</sup> day of the month following the month for which they represent. The APM will use monthly reports from Generator Owner/Operators to complete MCBQ's semiannual and annual reports to the Virginia Department of Environmental Quality (DEQ) as required by Base permits and regulations. Failure to maintain necessary documents and records may result in enforcement actions against the Base Command.

## 7. Inspection and Corrective Action

a. Inspection. The MCB Quantico Work Center Compliance Checklist, Emergency Generator, Attachment 5-1 is required on a monthly basis from permitted Generator Owner/Operators, and may be used by any Generator Owner/Operator for documentation.

b. Corrective Actions. During generator operation, if visible emissions exceed applicable limits, Generator Owner/Operators will:

(1) Immediately notify the APM.

(2) Remove the unit from service and determine what maintenance or repairs will be required to bring the generator into compliance with permit limits.

(3) Document the maintenance and repairs performed on the generator, the generator's pollution control device(s) and provide that information to the APM.

(4) Modify or replace generator components or pollution control devices after receiving approval from the APM.

(5) Repeat the visible emission evaluation to demonstrate compliance with the opacity limit before the unit is returned to service, and subsequently notify the APM that permit requirements are satisfied.

c. If the generator still cannot meet the opacity standard, appropriate action shall be agreed upon and implemented by MCBQ and the DEQ before the generator can be returned to service. The APM will be responsible for working with the DEQ to reach any agreement.

8. Internal Communication. Internal communication is included in Paragraphs 6 and 7.

9. Training/Awareness

a. The NREA Training Coordinator trains the following personnel on the applicable provisions of this ESOP: Generator Owners/Operators, Fuel Distribution Operators, and the APM.

b. NREA Training Coordinator and NREA APM provide or facilitate an annual combustion sources class to ensure all responsible parties are aware of any and all regulatory or MCB Quantico permit requirements.

c. APM provides additional guidance to appropriate personnel regarding this procedure. Guidance may include, but is not limited to, clarification of the information process, and recordkeeping requirements.

d. Operator Training. Generator Owner/Operators are responsible for ensuring that all persons working with the emergency generator receive the required training. This training includes, but is not limited to manufacturer's training on the O&M of the generator, applicable regulations and/or permits and their effect on the operation of the generator, and procedures to conduct visible emissions observations.

10. Emergency Preparedness and Response. The APM contacts the DEQ regarding any compliance issues with SAPCR or MCB Quantico's air operating permit(s).

11. References and Related Documents

a. Virginia SAPCR (9 VAC 5-40-50 and 9 VAC 5-20-160)

b. NSPS for Stationary Compression Ignition Engines (40 CFR 60, Subpart IIII)

c. NSPS for Stationary Spark Ignited Engines (40 CFR 60, Subpart JJJJ)

d. National Emissions Standards for Hazardous Air Pollutants (40 CFR 63, Subpart ZZZZ)

e. MCBQ Title V Air Permit (facility ID# NVRO70267), effective 09/02/03

f. MCBQ Minor New Source Review permit (facility ID# NVRO70267), effective 01/08/2010

g. MCBQ Work Center Compliance Checklist, Title V Operating Permit, Maintenance Inspection (Attachment 5-1)

h. MCBQ ESOP #4 - Emergency Generators Procurement

Emergency Generators O&M ESOP

12. Document Revision History. The following provides a history of revisions of this ESOP:

Revision Number	Revision Date	Revision Made By	Organization or Section	Paragraph	Summary of Change & Reason	Signature
2	4/25/07	AG	All	All	New APM clarifies procedures and updates and corrects various paragraphs as necessary	A. Gayne
3	11/19/07	AG	All	All	Modified to include requirements for NSPS subject generators	A. Gayne
4	5/14/13	JDG	Footnote & Paragraph 13.b.	1 & 6	Updated to imp. Team & added footnote	D. Grose

13. Document Owner. This document has been reviewed and approved by the document owner. Any revisions or future updates to the procedure will be completed by the document owner as needed.

- a. Document Owner. Air Program Manager, NREA Branch
- b. Document Approval. Chair, E<sup>2</sup>MS Implementation Team

**MCB QUANTICO WORK CENTER COMPLIANCE CHECKLIST**  
**EMERGENCY GENERATOR**

<b>Equipment:</b>	Process Equipment Requirements -- Diesel Engine-Driven Emergency Generators (Maintenance Inspection)														
<b>Unit:</b>		<b>Reference No.:</b>		<b>Building Number:</b>											
<b>Generator owner/Phone:</b>		<b>Date of Inspection:</b>		<b>Inspector:</b>											
<b>Limitations</b>													<b>Yes</b>	<b>No</b>	<b>Comments</b>
1	Are the diesel engine-driven emergency generators used only for providing power during interruption of service from the normal power supplier and for periodic testing? (9 VAC 5-80-110)														
2	For each emergency generator, do the hours of operation not exceed 500 hours per year? (9 VAC 5-80-110)														
3	For each emergency generator, are records of operating hours maintained? (9 VAC 5-80-110)														
4	Do visible emissions from each of the diesel engines not exceed what would normally be visible?														
<b>Monitoring and Recordkeeping</b>													<b>Yes</b>	<b>No</b>	<b>Comments</b>
5	Does the work center maintain monthly records of all emission data and operating parameters necessary to demonstrate compliance with this permit for the emergency generators? (9 VAC 5-40-50 and 9 VAC 5-20-160)														
6	Have the workcenter's emissions records been provided to the installation's Air Program Manager for the current month and most recent five years? (9 VAC 5-40-50 and 9 VAC 5-20-160)														
7	For diesel engine-driven generators with greater than 645 horsepower (or about 500 kilowatts) output capacity, does the work center observe the generators during their scheduled maintenance/test runs for normal visible emissions exhaust? (9 VAC 5-80-110)														
8	Does the work center record and keep on site the results of the observations? (9 VAC 5-80-110)														
9	Are the work center's visible emission observation records available for review for the current and most recent five years? (9 VAC 5-80-110)														
<b>Monthly Hours of Operation, if Opacity observed (Yes or No), Purpose (O&amp;M or EP*)</b>															
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Hours															
Opacity Observed .Y/N															
Purpose															

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<b>Equipment:</b>	Process Equipment Requirements -- Diesel Engine-Driven Emergency Generators <b>(Maintenance Inspection)</b>				
<b>Unit:</b>		<b>Reference No.:</b>		<b>Building Number:</b>	
<b>Generator owner/Phone:</b>		<b>Date of Inspection:</b>		<b>Inspector:</b>	
<b>General Observations and Comments</b>					
<b>Summary of Noncompliance Findings</b>					

Reference: Effective MCB Quantico Air Permits

\* EP - emergency power, only to be used when the generator provides backup power.